

WHAT IS CLAIMED IS:

1. A production method of an electrical connection structure, the method comprising the steps of:  
providing a carbon nanotube as an electrode; and  
contacting the electrode with a biopolymer.
2. The method of claim 1, further comprising, after the steps of providing the carbon nanotube as the electrode and contacting the electrode with the biopolymer, the step of applying an electric current between the electrode and the biopolymer.
3. The method of claim 2, wherein a voltage during application of the electric current is 1 to 20 V.
4. The method of claim 1, wherein the biopolymer is one of DNA and RNA.
5. The method of claim 1, wherein the biopolymer has a polar group, and the polar group and the electrode are made to contact each other.
6. The method of claim 1, wherein the electrode has a polar group at an end portion thereof, and the polar group and the biopolymer are made to contact each other.

7. The method of claim 5, wherein the polar group is selected from at least one of a carboxyl group, a carbonyl group, a hydroxyl group, an amine group, and an amide group.

8. An electrical connection structure comprising at least an electrode formed by a carbon nanotube, and a biopolymer, wherein the electrode is in contact with the biopolymer.

9. The electrical connection structure of claim 8, wherein the biopolymer is one of DNA and RNA, and the electrode is in contact with a portion of the biopolymer where  $\text{Na}^+$  ions on the surface of the one of DNA and RNA have been diffused.

10. The electrical connection structure of claim 8, wherein the electrode has a polar group at an end portion thereof and the biopolymer has a polar group at a portion thereof, the respective polar groups repelling each other, and the end portion of the electrode is in contact with a portion of the biopolymer other than the portion where the polar group is present.

11. An electrical connection structure comprising at least an electrode formed by a carbon nanotube, and a biopolymer, wherein the electrode is in contact with the biopolymer via a polar group.

